UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

142905

REPLY TO THE ATTENTION OF:

May 21, 1993

Mr. Jim Langseth
Barr Engineering Co.
8300 Norman Center Dr.
Suite 300
Minneapolis, Mn. 55437

Dear Jim:

Enclosed please find the USEPA's comments on the RI/FS Phase I technical memorandum that was submitted for Agency review in April, 1993. Also attached are the IEPA's comments. Please review these comments and respond accordingly. If you have any questions or would like to schedule a meeting concerning these comments, please contact me at your earliest convenience.

Sincerely,

William J. Bolen
Remedial Project Manager
U.S. EPA

encl. as

cc: S. Mulroney
T. Fitzgerald
T. Gowland

USEPA/IEPA Comments to Phase I Technical Memorandum
Waukegan Manufactured Gas and Coke Plant Site

General Notes

The Agencies submitted comments to Barr on this document in order that revisions would be made to make it an "approvable" document. If Barr or its clients do not agree with these comments, it is appropriate that this be brought to the Agencies' attention immediately. If, after discussions or agreements have resulted in settlement of those comments in dispute, it is inappropriate for Barr to imply that the Agencies made arbitrary conclusions. The document should simply state the mutually agreed upon conclusion without unnecessary and inappropriate references.

1. Sec. 2.2.2.3: Barr must evaluate all existing data before preparing the draft Remedial Investigation Report.

2. Sec. 2.4.2.2, Para. 4: The Agencies disagree that flow is occurring toward the southeast from the northeast corner of the site.

3. Sec. 2.4.4.2: The text states that no soil data is available from the ISGS. The text should explain the rationale for selecting the references cited in Table 2.4-6 to provide information on the natural composition of soils.

4. Sec. 2.4.5.1: Revise to read " The source of phenol in the sample from Well MW-3D is unknown at this time and will be investigated during Phase II sampling."

5. Sec. 2.4.5.1: The text does not explain the potential source of high arsenic concentrations in MW-5D and MW-6D. The text should state that the potential source of arsenic will be investigated during Phase II sampling.

6. Sec. 2.4.5.3: Phase II sampling activities will include monitoring well sampling from off-site areas. This must be reflected in the text.

7. Sec. 2.4.6, Pg. 55, Para. 4: Stike "at the" from the first sentence.

8. Sec. 3.3.1: The text states that " If free-phase oil or tar is found near the base of the groundwater unit, Well MW-9D will be screened above the level of the tar or oil." If such a condition exists, a sample must be collected and analyzed for characterization. It is a requirement of this investigation that the extent and type of contamination must be fully defined.

9. Sec. 3.3.4: The text should refer to Fig. 3.2-1, which

identifies the locations of clay till permeability tests.

10. Sec. 3.3.4: The test states that the treated water will be discharged to the ground near sampling locations SS-12 and SS-13 at a rate of 10 gallons a minute. The text should also include a time interval for monitoring this activity to ensure that water does not flow off site or affect groundwater elevations in nearby monitoring wells.

11. Sec. 3.5.1: Samples collected for TCLP analysis should not be mixed - this may result in increased volatilization.

12. Sec. 3.6.1: Tables 3.6-1 and 3.6-2 indicate that the risk assessment will take approximately 4 weeks for PRC to complete. PRC will require approximately 10 weeks to complete this task. This assumes that PRC will not conduct an ecological assessment and that this assessment will be completed by Barr. Be advised that PRC cannot begin the risk assessment until all data have been validated and approved by the USEPA. In addition, work cannot start on the assessment until the Agencies have approved the Preliminary Characterization Summay. Finally, the Agencies require a 30 day review period. Revise these tables accordingly.

13. Table 2.4-7: Reults listed for methylene chloride and carbon disulfide are incorrect.

14. Table 3.2-1: The table indicates that the number of groundwater wells sampled during Phase II to assess potential treatability alternatives has been reduced from 21 to 10. An explanation for this revision is required.

15. App. I: The Agencies do not agree that the aquifer base is horizontal - Phase I data indicates otherwise.

16. App. I: An explanation is required as to why the assumed hydraulic conductivity is 20 ft/d offsite when the model uses 6 ft/d beneath the site.

17. App. I: The tech memo will address and include in Phase II modeling additional groundwater elevation data, more measuring events, and additional hydraulic conductivity data from slug and pumping tests. This data should be used to address data gaps and reduce the number of simplifying assumptions in the model. If the data cannot achieve this, the uncertainties of the model should be clearly stated in the text.

18. App. K: This standard operating procedure is a copy of Rev. 0 of the source method and is not a lab SOP. Revision 1 was issued in November 1990 and should be incorporated as an SOP presented in the same style as the alkalinity and acidity SOPs in this appendix.

19. App. K: This SOP is a copy of the source method. However, it omits essential references to issues such as interferences and

apparatus, some reagents, and many procedures used.

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May 20, 1993

Mr. William Bolen
Waste Management Division
Office of Superfund
IL/IN Remedial Response Branch
HRSL-6J
USEPA, Region V
77 West Jackson Blvd
Chicago, Illinois 60604

Re: L0971900047 Lake Co.
Waukegan Coke Plant Phase II RI

Dear Mr. Bolen:

Enclosed are the IEPA's comments on the first volume of the Tech Memo and first appendix, as well as the Revised Technical Memorandum, and Proposed Modeling for the RI/FS, that was received April 13, 1993.

The monitoring wells and piezometers that were installed during the phase I RI had all the purge water discharged to the surface at the site. Even though the water had been treated in the field, prior to the discharge, it was released near an area where gross contamination was found in the trenches. By allowing the discharge of over 7,400 gallons, additional contamination migration vertically and laterally may have occurred in the groundwater. It is the state's position that we should not allow this type of activity to occur for an area that has large amounts of gross contaminants present, but rather the effluent be disposed of via the near by POTW, an NPDES permit, or an alternative treatment technology.

The groundwater modeling provided showed that the flow direction for the discharge area used in Phase I was towards the beach. The present modeling indicates that the flow direction for the proposed area of discharge for the Phase II would be towards the Waukegan harbor. Even if this area is free of gross contaminants from the surface to the water table, the groundwater will contain constituents from the

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contaminated site and will be flowing towards the harbor. By allowing the discharge of treated water to the ground surface additional drive water will be introduced to the aquifer and contaminants will be further dispersed towards the harbor.

The use of sprinkling systems or reinjection as part of the final remedy are viable options for this site. These alternatives must be used, however, in conjunction with groundwater boundary controls, so that the remedy will not allow the additional migration of contaminated groundwater to leave the site and further effect the beach, Lake Michigan, or the Waukegan harbor. This Agency's position is to be consistent with the intent of the remedy.

The option of sending wastewater to a local POTW should be considered. Depending on the choice of treatment and transport to the POTW, several regulations and requirements will be applicable.

1. Installation of a sewer line requires a construction permit for the sewer connection: 35 Ill. Adm. Code 309.202;
2. Construction of a pretreatment system requires a construction permit: 35 Ill. Adm. Code 309.202; and also requires an operating permit if the POTW receiving the discharge does not have a Federally approved pretreatment program pursuant to 40 CFR 403: 35 Ill. Adm. Code 309.203.
3. The general and specific pretreatment requirements: 35 Ill. Adm. Code 307.1101 and constituent specific requirements 307.1102-1103 apply to discharges to POTWs.
4. Discharges to POTWs are also subject to any applicable Federal standards, including General Pretreatment Standards at 40 CFR 403 and the National Categorical Pretreatment Standards at 40CFR 405-471.
5. The POTW or wastewater treatment works receiving the discharge may have local discharge standards for pollutants, general and specific discharge prohibitions, monitoring and reporting requirements, and permitting requirements.
6. Operation of a treatment works must be under the direct and active supervision of a certified operator: 35 Ill. Adm. Code 312.101.
7. If wastewater is trucked to the POTW, a sewer connection permit is always required pursuant to 35 Ill. Adm. Code 309.202. Transport of this wastewater to a POTW likely requires a special waste stream authorization from the Division of Land Pollution Control, and may be subject to 35 Ill. Adm. Code 721, 808, and/or 809. This application is typically submitted along with the construction/operating permit application submitted to the Division of Water Pollution Control and undergoes a coordinated review by those

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divisions.
8. POTWs review all proposed sewer hardware and pretreatment systems prior to the discharger's submittal of that information in a permit application to the Division of Water Pollution Control.
9. If for any reason this discharge becomes a direct discharge to surface water and thereby subject to NPDES regulations at 40 CFR 122, the discharge standards, the permitting requirements, and the sampling, monitoring, and reporting requirements are different from those described above for an indirect discharge.

The application process for an NPDES permit, can be expected to take at least 2 months plus a 45 day public comment/notification period. Application for a permit to discharge to a POTW will be processed by the Division of Water Pollution Control within 90 days of receipt.

The deletion of compounds from the site investigation analysis may be acceptable. Questions do remain in the present text as to the fire training and storage of petroleum and PCB's on site by OMC. These areas have not been identified on the facility maps. If the types of compounds used in the fire training, the locations for such, as well as the storage areas were known, then removing compounds for the entire site investigation list would be more feasible. At the meeting in Chicago chlorinated compounds were stated as not being a component of the facility's previous processes and were to be considered for removal from the analytical list. Information as to the types of compounds used by OMC should be considered before removing any compounds.

All compounds that are detected in an analysis should be listed. Those that are not detected should simply be labeled non detected and the detection limits given for each analysis. Those compounds that have been proposed for removal from the Phase II analysis that would require additional analysis for those compounds can be removed, since they were not found around the site previously during Phase I.

Boring locations for highly contaminated areas should have casing set and deep drilling be done inside. Hydrated bentonite around the outside of the casing will stop the vertical migration of the free flowing contaminants observed in Phase I. This will reduce the amount of gross contamination and help the data be more representative of the site conditions.

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Soil cuttings and purge water from off site installations should be required to be brought back to the site and stored, or treated appropriately.

Cuttings on site may be in areas of fire training, where the RCRA classification has not been determined. Listed compounds may be present and would trigger the Land Disposal Restrictions. The only soil that should be placed on the ground after drilling is complete, is soil that does not register a reading on hand held field screening devices when brought up on augers, or when split spoons are opened. Coming back later after spreading the soils and taking a reading is not acceptable.

In 3.2.2 surface soil samples are described as to be taken from the 0-6" range for VOA's. This interval should be moved down to at least 6-12" so as to account for the volatilization of compounds from this interval previously, thus altering the concentration that would have been detected in the analysis.

Is the Soil Stockpile Soil Samples in section 3.2.3.1 for the pile from the dredging of the harbor, or the new slip. If it is the surface impoundment, the bottom liner should not be drilled through and sampled since it can not be resealed afterwards.

Those wells that are installed in areas where the possibility of free flowing contamination exists should be installed using a sealed casing and internal drilling the depths required for the installation. This will eliminate the potential for vertical migration of the contaminants.

The sampling described in 3.4.1.1 should include the collection of the initial volumes of oil/water in the deep till wells that produce very dark or oily discharge. By pumping the wells of this material first and then sampling the water that is drawn in after, the amounts of DNAPL that are at the base of the till will be misrepresented, since the water will flow towards the screens and only produce a minimal amount of DNAPL.

With respect to the water being discharged on the site, in section 3.4.2 it states that the Harbor will receive groundwater from the site, and is part of a focus for evaluating the potential environmental impacts this direct discharge of groundwater has, and is, producing. They shouldn't even be asking to discharge to the ground based on

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the data that is already available on the harbor's environmental impacts. This section also states that the groundwater quality impact to the surface waters will be determined via the model. Subsequently, at this point of the investigation, they do not know the impact of any water that percolates down and drives groundwater offsite. This is especially of concern considering the geology for this site. The cross sections shown in Figures 2.4-2 and 2.4-3, indicate fill and sand down to the till.
The data presented in Figure 2.4-8 lists the cyanide concentrations in the monitoring wells. All perimeter wells show cyanide present at the deep till locations. The well MW-5D is directly inline with the presently modeled groundwater flow. It has cyanide present at 526 ppb, arsenic levels at 9220 ppb in figure 2.4-9, and is situated approximately twelve feet from the harbor. Discharge of the sites pollution control water here would wash those contaminants towards, or into the harbor.
Those wells that are placed off site at the beach should have the geologist determine that the wells are set at the proper depth to catch the DNAPL contamination that would be migrating along the top of the till layer towards Lake Michigan.

Pollution Control Wastes are regulated under either the RCRA hazardous waste requirements, or the Special waste regulations in 35 IAC Subtitle G Section 809.

3.4.1.1 Monitoring well development water should be treated and disposed of according to comments noted previously.

3,2.1.1., 3.3.1. states that boreholes will be abandoned with neat cement grout. The IEPA has concerns about this procedure with regard to site remedy. If any soil has to be removed, the cement backfill will obviously need to be removed as well. This procedure could weaken the structural integrity of the cement grout at greater depths, possibly allowing contamination to move into previously uncontaminated areas.

2.4.4.4. #1. states that no PCB analysis is to be run on soil samples. The IEPA missed the discussion regarding this issue and wanted to voice concerns about the lack of PCB analysis in Phase II.

If you have any questions please feel free to call me, my direct line is (217) 582-9882.

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Sincerely,

Gerald E Willman

Gerald E. Willman
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Federal Sites Management Unit
Remedial Project Management Section